

Remarks

The Applicants have cancelled Claims 10 and 12 and introduced the subject matter of those claims into independent Claims 1, 2, 3 and 17. Thus, the claims now refer to a film, wherein the film is formed from a formed plastic comprising a poly(lactic acid) polymer composition. A representative example of a film formed from a formed plastic comprising a poly(lactic acid) polymer composition may be found in Example 14. In that case, poly(lactic acid) polymer (P1) and plasticizer (S2) were melted, kneaded and homogenized in an extruder and the kneaded product was extruded into chips. This is the formed plastic comprising a poly(lactic acid) polymer composition.

Then, the chips were melted in an extruder and introduced into a diehead and extruded into a sheet which was cast on a drum and cooled to yield an unstretched film. The unstretched film was then stretched and then subsequently heat treated under tension. As noted above, this is a representative example of a film formed from a formed plastic comprising a poly(lactic acid) polymer composition.

Independent Claims 1, 2, 3 and 17 have also been amended to recite that the film has a tensile modulus elasticity of 100 to 1500 MPa. Support may be found on page 36 of the Applicants' Specification at lines 13 and 14, for example. Entry into the official file and consideration on the merits is respectfully requested.

The Applicants have also amended Claims 4 – 9, 11 and 13 – 16 to account for the above-mentioned amendments to Claims 1, 2 and 3 and the cancellation of Claims 10 and 12. Again, the Applicants respectfully request that the amendments be entered into the official file and considered on the merits.

The Applicants note the rejection of Claims 1 – 15 and 17 under 35 U.S.C. §102 as being anticipated by JP '665. The Applicants respectfully submit that JP '665 fails to explicitly or

implicitly disclose every aspect of those rejected claims. For example, JP '665 fails to disclose a film that has a tensile modulus of elasticity of 100 to 1500 MPa. The reason for this is quite simple. JP '665 merely mentions films in passing and only in the context of a fiber that consists of a constituent that may be a film. There is utterly no discussion of the film or its characteristics. On this basis alone, the Applicants respectfully submit that all of Claims 1, 2, 3 and 17 clearly distinguish over JP '665.

The Applicants also respectfully submit that JP '665 fails to provide disclosure sufficient to support a rejection of Claims 1, 2, 3 and 17 based on an inherency of the film having a tensile modulus of elasticity of 100 to 1500 MPa. As noted above, the disclosure of JP '665 is completely devoid of any disclosure other than the mere existence of a film. There is no disclosure about any characteristic of any film that could theoretically be formed from any JP '665 composition.

In any event, the Applicants respectfully submit that inherency rejections may only be supported if the disclosure upon which the rejection is based contains sufficient relevant disclosure that the claimed physical characteristic that is inherently present is "necessarily" present. It is not good enough that the claimed physical characteristic might be present, could be present, might possibly be present or even likely to be present. An inherency rejection must be based on physical characteristics that are "necessarily" present.

The Applicants respectfully submit that such disclosure does not exist in this case. The Applicants have already provided an example of one manner in which the claimed films can be formed. There is no such disclosure in JP '665 that would leave one skilled in the art with any reasonable expectation that a film hypothetically formed based on the JP '665 disclosure would have the claimed tensile modulus. The only example in JP '665 is for the production of yarns formed from fibers of the composition. Thus, it can be seen that, at a minimum, the steps subsequent to

forming chips in the JP '665 examples are completely different from the steps typically utilized by the Applicants in forming their films. Those steps would introduce any number of possible variables into the materials formed by those steps and one skilled in the art would have a very reasonable expectation that the physical characteristics of the fibers/yarns produced by JP '665 would have very different physical characteristics compared to the films produced by the Applicants. Thus, one skilled in the art would have a reasonable expectation that the tensile modulus of JP '665 would be completely different from the tensile modulus claimed by the Applicants. Of course, this is all taken in the context of the fact that the only example provided by JP '665 is directed to formation of yarn, whereas the Applicants specifically claim a film. The Applicants, therefore, respectfully submit that JP '665 is completely inapplicable to Claims 1 – 15 and 17 and respectfully request that JP '665 be withdrawn.

The Applicants note the rejection of Claims 1 – 15 and 17 under 35 U.S.C. §102 over EP '894. The Applicants respectfully submit that EP '894 is also inapplicable to all of Claims 1 – 15 and 17.

The Applicants claim a film formed from a formed plastic comprising a poly lactic polymer composition, comprising a poly(lactic acid) polymer and a plasticizer wherein the plasticizer comprises at least one poly(lactic acid) segment and a polyether and/or polyester segment. The Applicants respectfully submit that EP '894 fails to disclose this either implicitly or explicitly.

The Applicants agree that EP '894 discloses a poly(lactic acid) component (A). EP '894 also discloses a plasticizer (B). However, that plasticizer is taught as being added to provide the high molecular ingredient poly(lactic acid) component (A) with flexibility of less than 100 MPa in elastic modulus. This is quite different from the Applicants' wherein the plasticizer is added for the purpose of providing flexibility to the film.

In any event, the plasticizer disclosed by EP '894 is not the same as what the Applicants specifically claim. EP '894 discloses plasticizers including aliphatic polybasic acid ester, aliphatic polyhydric alcohol ester and oxyacid ester. Various examples of those three basic groups are provided. However, there is utterly no disclosure concerning a plasticizer that has one component that is a poly(lactic acid) segment and another component that is a polyether and/or polyester segment. As a consequence, the Applicants respectfully submit that EP '894 simply does not apply to any of Claims 1 – 15 and 17. Withdrawal of the rejection is respectfully requested.

The Applicants note the rejection of Claims 1 – 17 under 35 U.S.C. §102 as being anticipated by US '495. The Applicants' Claim 1 recites a plasticizer that has at least one poly(lactic acid) segment having a molecular weight of 1,200 or more per molecule. US '495 fails to disclose this, either explicitly or implicitly. US '495 discloses a polylactide polymer having a number average molecular weight of between 5,000 and 200,000. However, that is the (A) component and not the (B) component as recited in Claim 1, or even a segment of the (B) component as specifically recited in Claim 1. To the contrary, the Applicants' claimed plasticizer, to the extent that it corresponds to any of the US '495 disclosure, refers to the deactivating agent, not the polylactide polymer about which the molecular weight is described. Referring to the discussion of the deactivating agent in US '495, such as beginning about midway through Column 12, there is nothing with respect to the molecular weight of a poly(lactic acid) segment. There is a short discussion of high molecular weight polyacrylic acids having a number average molecular weight between about 40,000 and 500,000. However, there is no disclosure with respect to any poly(lactic acid) segment. Therefore, US '495 is inapplicable to Claim 1.

Moreover, there is no disclosure of a film having a tensile modulus of elasticity of 100 to 1500 MPa. The teachings and examples of US '495 are also completely inadequate to support a

rejection based on inherency of the claimed tensile modulus. One skilled in the art would have no reasonable expectation that any product produced in accordance with US '495 would "necessarily" have the claimed physical characteristic. Therefore, US '495 is inapplicable for that reason as well.

The Applicants' Claim 2 recites a poly(lactic acid) polymer exhibiting crystallinity and a poly(lactic acid) polymer exhibiting no crystallinity. US '495 fails to disclose any reference to crystallinity, much less a poly(lactic acid) polymer exhibiting crystallinity and a poly(lactic acid) polymer exhibiting no crystallinity. Further, as noted above, there is no reference to poly(lactic acid) segments having molecular weight of 1,200 or more. Claim 2 specifically recites that there is no poly(lactic acid) segment having a molecular weight of 1,200 or more. US '495 fails to address this issue at all. Therefore, US '495 is inapplicable to Claim 2.

The Applicants respectfully submit that US '495 is also inapplicable to Claim 3 for essentially the same reasons set forth above with respect to Claim 2. Claim 3 also recites that there is no poly(lactic acid) segment having a molecular weight of 1,200 or more. US '495 fails to address this issue at all. Claim 3 also recites that there is a poly(lactic acid) polymer exhibiting crystallinity and having a melting point lower than 145°C. This issue is also not addressed at all in US '495. It is therefore inapplicable to Claim 3.

US '495 is also inapplicable to Claim 17. Claim 17 recites a poly(lactic acid) polymer exhibiting no crystallinity. US '495 fails to disclose whether any of the materials are crystalline or not. It therefore inherently does not apply to Claim 17. Claim 17 further recites that the entire polymer composition contains no poly(lactic acid) polymer exhibiting crystallinity. Again, US '495 is silent on this aspect. Accordingly, US '495 is also inapplicable to Claim 17. Withdrawal of the rejection of Claims 1 – 17 based on US '495 is respectfully requested.

Naturally, all of Claims 2, 3 and 17 contain the claimed tensile modulus which is again not disclosed either explicitly or implicitly by US '495. Withdrawal of the rejection based on US '495 is accordingly respectfully requested.

US '401 discloses a multilayer film that includes a core layer sandwiched between a first blocking reducing layer and a second blocking reducing core layer. The second blocking reducing core layer comprises a lactic acid residue containing polymer. All of the layers may be made of poly(lactic acid), polylactide and other components. The molecular weight may be a number average molecular weight in the range of about 50,000 to about 200,000. The core layer can include a plasticizer to reduce the glass transition temperature. The plasticizer can include alkyl or aliphatic esters and ethers. Separately, the blocking reducing layers are hydrolysable polymers such as lactic acid residue polymers having a number average molecular weight of about 50,000.

Thus, US '401 fundamentally discloses a core layer that may be made of poly(lactic acid) and a plasticizer of alkyl or aliphatic esters and ether. However, this is not what the Applicants claim. Referring first to Claim 1, the Applicants specifically recite a plasticizer that has at least one poly(lactic acid) segment having a molecular weight of 1,200 or more. US '401 fails to disclose this. Instead, the plasticizer of US '401 is an alkyl or aliphatic ester or ether. There is no disclosure of the plasticizer containing a poly(lactic acid) segment having a molecular weight of 1,200 or more. The reference to molecular weights in US '401 does not refer to the plasticizer, but refers to the main layers.

Claim 2 differs from Claim 1 and recites a poly(lactic acid) polymer exhibiting crystallinity and, separately, a poly(lactic acid) polymer exhibiting no crystallinity. There is no disclosure, coming either explicitly or implicitly, of such two components in US '401. US '401 therefore does

not apply to Claim 2. Claim 2 also recites a plasticizer that has no poly(lactic acid) segment having a molecular weight of 1,200 or more.

Claim 3 recites a poly(lactic acid) polymer having a melting point lower than 145°C. US '401 is directed to glass transition temperatures, not melting points, and therefore does not disclose the claimed melting point. Also, Claim 3 specifically recites a plasticizer that comprises a polyether and/or a polyester segment and that has no poly(lactic acid) segment having a molecular weight of 1,200 or more. As previously noted with respect to Claim 2, there is no disclosure in US '401 concerning the plasticizer containing or not containing a poly(lactic acid) segment having a molecular weight of 1,200 or more. US '401 is therefore inapplicable to Claim 3.

The Applicants respectfully submit that US '401 is also inapplicable to Claim 17. It specifically recites that the polymer composition as a whole contains no poly(lactic acid) polymer exhibiting crystallinity and further recites a poly(lactic acid) polymer exhibiting no crystallinity. US '401 fails to address the issue of the complete composition containing no poly(lactic acid) polymer that does exhibit crystallinity on the one hand and, on the other hand, a poly(lactic acid) polymer exhibiting no crystallinity. The Applicants therefore respectfully submit that US '401 is inapplicable to Claim 17.

US '401 also fails to disclose either explicitly or implicitly the claimed tensile modulus as recited above with respect to US '495. US '401 also fails to provide disclosure that would leave one skilled in the art with any reasonable expectation that the claimed tensile modulus would “necessarily” be present in any articles manufactured by US '401. The Applicants, therefore, respectfully submit that US '401 is inapplicable. Withdrawal of the rejection of Claims 1 – 17 based on US '401 is accordingly respectfully requested.

The Applicants note the rejection of Claim 16 under 35 U.S.C. §103 over JP '278. The Applicants respectfully submit that JP '278 fails to teach or suggest the subject matter of Claim 16 for the reasons set forth in detail below.

JP '278 relates to a sheet of poly(lactic acid) polymer that is longitudinally stretched at a stretching temperature of 50 – 90°C with a stretching magnification range of 1.5 – 5 times. The sheet is subsequently laterally stretched at a stretching temperature of 50 - 80°C with a stretching magnification range of 1.5 – 5 times. After biaxial stretching, the resulting stretched film may be heat treated at a temperature of 70°C.

The film includes a poly(lactic acid) polymer that may be copolymers of poly(lactic acid) or a lactic acid, and other hydroxycarboxylic acid or mixtures thereof. The poly(lactic acid) may be polymerized to a weight average molecular weight of 10,000. However, such a disclosure is inapplicable to Claim 16 inasmuch as it fails to teach or suggest important aspects of that claim. For example, Claim 16 ultimately depends from Claims 1, 2 or 3. Claim 1 explicitly recites a poly(lactic acid) polymer exhibiting crystallinity. JP '278 fails to disclose this. Claim 1 also recites a plasticizer having at least one poly(lactic acid) segment having a molecular weight of 1,200 or more per molecule. JP '278 fails to disclose this. The Applicants therefore respectfully submit that JP '278 is inapplicable to Claim 16 to the extent that it depends from Claim 1.

The Applicants also respectfully submit that JP '278 is inapplicable to Claim 16 to the extent that Claim 16 depends from Claim 2. Claim 2 specifically recites a poly(lactic acid) polymer exhibiting crystallinity and a poly(lactic acid) polymer exhibiting no crystallinity. There is no disclosure, teachings or suggestions with respect to crystallinity, much less a composition that includes a poly(lactic acid) polymer exhibiting crystallinity on the one hand and a poly(lactic acid) polymer exhibiting no crystallinity on the other hand.

The Applicants respectfully submit that JP '278 is inapplicable to Claim 16 to the extent that it depends from Claim 3. Claim 3 recites a poly(lactic acid) polymer exhibiting crystallinity, which is not disclosed by JP '278. Also, Claim 3 recites a plasticizer comprising a polyether and/or polyester segment and has no poly(lactic acid) segment having a molecular weight of 1,200 or more. JP '278 fails to disclose, teach or suggest a plasticizer that has no poly(lactic acid) segment having a molecular weight of 1,200 or more. There is no reference to a plasticizer generally and no reference to the absence of a poly(lactic acid) segment having a molecular weight of 1,200 or more. JP '278 also fails to disclose, teach or suggest the claimed tensile modulus. There is simply no discussion on this claimed aspect. Moreover, there is nothing in JP '278 that would support an inherency rejection. Accordingly, the Applicants respectfully request withdrawal of the rejection of Claim 16 based on JP '278.

In light of the foregoing, the Applicants respectfully submit that the entire Application is now in condition for allowance, which is respectfully requested.

Respectfully submitted,



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